

What is claimed is:

1. A disc drive apparatus comprising a disc drive housing (4) containing an OPU (optical pick-up unit) (10) and a DVD cartridge (16), said OPU (10) joined to said DVD cartridge (16) wherein sensitive parts of said OPU are shielded from an interior environment (6) of said disc drive housing.
2. The disc drive apparatus as in claim 1, further comprising said housing including at least a duality of openings (20) and a fan (26) that causes a cooling medium to flow through said housing (4) and cool at least one of said DVD cartridge (16) and said OPU (10).
3. The disc drive apparatus as in claim 2, wherein said cooling medium further cools further components including a turntable motor (18) and a disc drive PCB (14).
4. The disc drive apparatus as in claim 2, wherein said cooling medium comprises air.
5. The disc drive apparatus as in claim 4, wherein said air is unfiltered air.
6. The disc drive apparatus as in claim 1, wherein said sensitive parts are disposed at least partially within said DVD cartridge (16).
7. The disc drive apparatus as in claim 1, further comprising a dust seal (30) joining said OPU (10) and said DVD cartridge (16).
8. The disc drive apparatus as in claim 7, wherein said OPU (10) is translatable with respect to said DVD cartridge (16) and said dust seal (30).
9. The disc drive apparatus as in claim 7, wherein said OPU (10), DVD cartridge (16) and dust seal (30) form a subassembly including an enclosed interior (28) that contains said sensitive parts and is shielded from said interior environment (6).
10. The disc drive apparatus as in claim 9, further comprising said housing including at least a duality of openings (20) and a fan (22) that causes a cooling medium to flow through

said housing (4) and wherein further parts of said OPU (10) are disposed outside said subassembly and within an OPU casing (36) that is directly cooled by said cooling medium.

11. The disc drive apparatus as in claim 10, wherein said further parts include electrical components and a laser.

12. The disc drive apparatus as in claim 1, wherein said sensitive parts comprise optical parts.

13. The disc drive apparatus as in claim 1, wherein said sensitive parts include at least one of a lens and a mirror.

14. The disc drive apparatus as in claim 1, wherein said OPU (10) is translatable with respect to said DVD cartridge (16).

15. The disc drive apparatus as in claim 1, wherein at least part of said OPU (10) and said DVD cartridge (16) are cooled by forced convection.

16. A disc drive apparatus comprising an optical pick-up unit (10) joined to a DVD cartridge (16), wherein sensitive parts of said optical pick-up unit (10) are at least partially surrounded by a dust shield (30) and at least further parts of said optical pick-up unit are cooled by forced convection.

17. The disc drive apparatus as in claim 16, further comprising a housing (4) encasing said DVD cartridge (16) and said optical pick-up unit (10) and a fan (22), said housing (4) including at least a duality of openings (20) that combine with said fan (22) to provide said forced convection.

18. The disc drive apparatus as in claim 16, in which said further parts are disposed within a casing (36) covered by a metal dust cover.

19. The disc drive as in claim 16, wherein said sensitive parts are disposed within an actuator section (11) of said optical pick-up unit (10) and said optical pick-up unit (10) is translatable with respect to said DVD cartridge (16) and said dust seal (30).

20. A method for cooling an OPU (optical pick-up unit) (10) disposed in a DVD data drive (2) and shielding said OPU (10) from dust, comprising:

providing a DVD cartridge (16), an OPU (10) and a disc drive housing (4);

joining said OPU (10) to said DVD cartridge (16) within said disc drive housing (4) wherein sensitive parts of said OPU are shielded from an interior environment (6) of said disc drive housing (4); and

cooling said OPU by forced convection.

21. The method as in claim 20 wherein said joining comprises using a dust seal (30) to join said OPU to said DVD cartridge wherein said OPU (10) is translatable with respect to said DVD cartridge (16).

22. The method as in claim 20, wherein said housing (4) includes at least a duality of openings (20) therethrough and said cooling comprising a fan (22) causing unfiltered air to flow through said disc drive housing (4).

23. A method for operating a DVD data drive (2) comprising:

providing a disc drive housing (4) containing an OPU (optical pick-up unit) (10) and a DVD cartridge (16), said OPU (10) joined to said DVD cartridge (16) wherein sensitive parts of said OPU (10) are shielded from an interior environment (6) of said disc drive housing (4); and

cooling said OPU (10) by forced convection.

24. The method as in claim 23, wherein said housing (4) includes at least a duality of openings (20) therethrough and said cooling comprising a fan (22) causing air to flow through said disc drive housing (4).

25. The method as in claim 23, wherein said cooling comprises cooling said OPU (10) and said DVD data drive (2) by forced convection of unfiltered air.

26. The method as in claim 23, wherein said cooling comprises powering a laser of said OPU (10) and cooling said laser.